AIVC and INIVE :
A short introduction

AIR INFILTRATION AND VENTILATION CENTRE

Activity of International Energy Agency

Energy Conservation in Buildings and Community Systems

Max Sherman

Chairman AIVC Steering Group

The Air Infiltration and Ventilation Centre

- "Information Centre" since 1979
- The AIVC tries to increase knowledge in air infiltration and ventilation related research and application.
- The AIVC attempts to improve the flow of information between researchers, practitioners and other "decision makers" with a range of products.

AIVC and INIVE : short introduction

International Energy Agency

INFORMATION CENTERS

On Energy Technologies

A DIRECTORY

Sources of up-to-date information for technologies in

- fossil fuels
- renewable energy
- energy efficiency
- fusion power

collected and disseminated under IEA Implementing Agreements.

IEA ENERGY TECHNOLOGY DATA EXCHANGE

CADDET energy efficiency IEA OECD

CADDET renewable energy IEA OECD

IEA OECD heat pump centre

IEA activities on Energy Conservation in Buildings

Since 1975, there have been some 45 projects

→ *Annex 5 :* ***Air Infiltration and Ventilation Centre***

- Annex 9 : Minimum ventilation rates
- Annex 14 : Condensation
- Annex 18 : Demand Controlled ventilation
- Annex 20 : Air flow patterns in buildings
- Annex 23 : Multizone Air flow modelling (COMIS)
- Annex 35 : Hybvent
- Annex 40 : Commissioning of HVAC systems

Original Operating Philosophy

- Jointly Funded by IEA Countries
  - Overseen by “Steering Group”
- Staff Collects & Prepares Information
- Products (Publications) Free to Participating Countries
- Worked for 20 years
  - Countries developed strong local programs
  - Need closer link to end users

WHAT IS THE *AIVC* Now

- Part of International Energy Agency
  - Annex V of ECBCS IA
- Task Shared Research Effort
  - National programs conduct R&D
- Jointly Funded Information Centre
  - INIVE contracted to disseminate products
    - Gets $ & license do not non-R&D work

What is INIVE EEIG?

- INIVE = International Network for Information on Ventilation and Energy Performance
- Aim : a Network of Excellence focusing on lasting collaboration and strategic alliance
- Members :
  - Some of the leading research organizations in field of ventilation and energy efficiency

Countries & Users

Technical programme

AIVC countries

- Belgium
- Canada
- Czech Republic
- France
- Greece
- Netherlands
- Norway
- USA

Administration & Dissemination

INIVE members

- BBRI (Belgium)
- CETIAT (France)
- CSTB (France)
- EMPA (Switzerland)
- ENPTE (France)
- Fraunhofer (Germany)
- NBI (Norway)
- NKUA (Greece)
- TNO (Netherlands)

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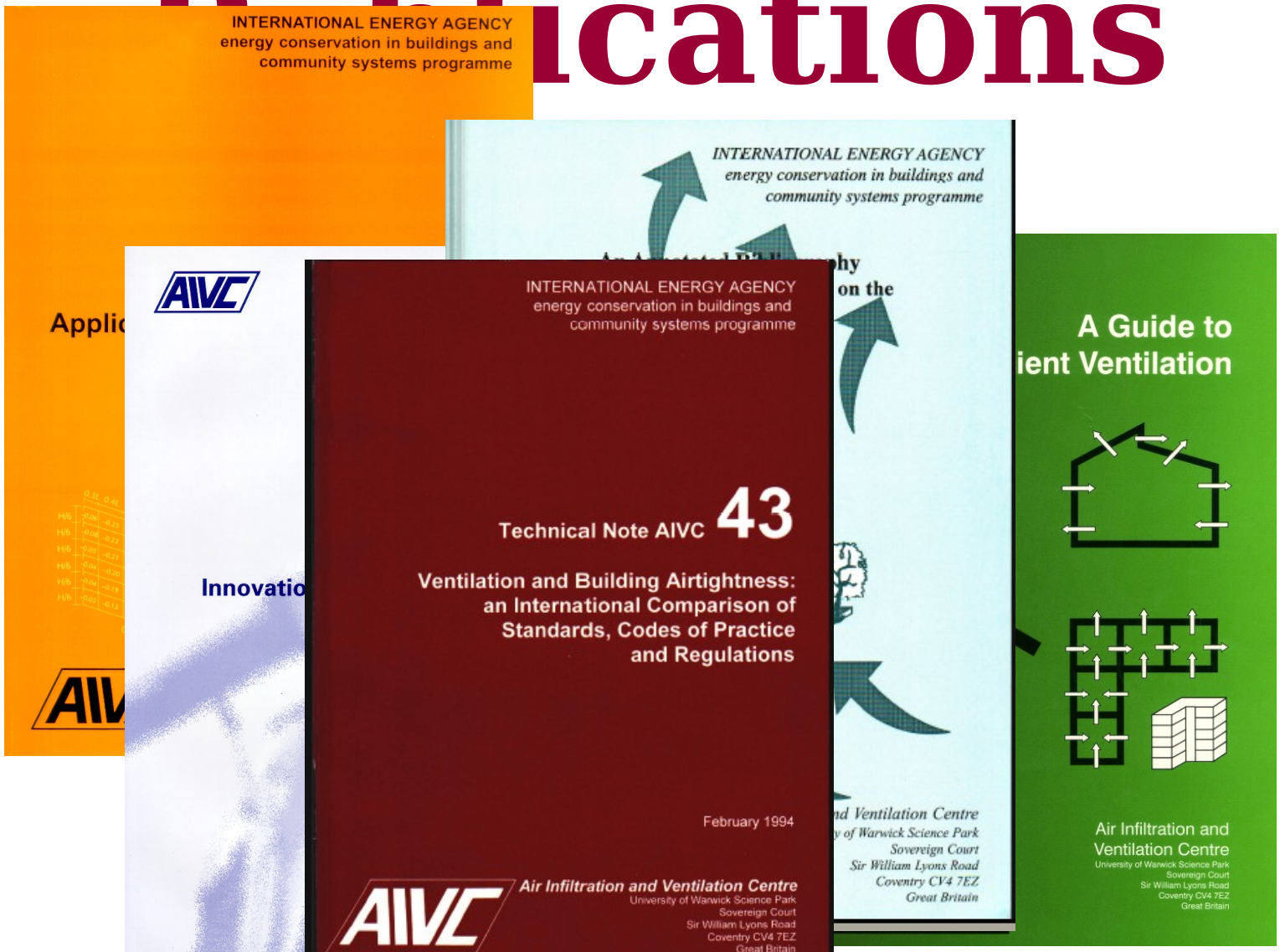
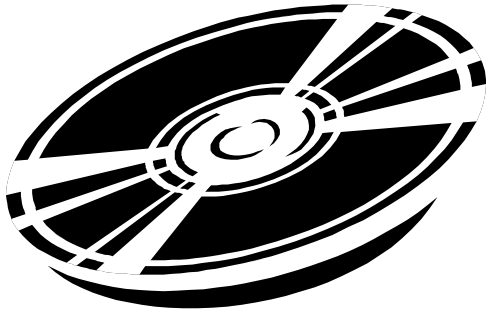
AIVC Publications


INTERNATIONAL ENERGY AGENCY
energy conservation in buildings and community systems programme
INTERNATIONAL ENERGY AGENCY
energy conservation in buildings and community systems programme
Technical Note AIVC 43
Ventilation and Building Airtightness: an International Comparison of Standards, Codes of Practice and Regulations
February 1994
Air Infiltration and Ventilation Centre
University of Warwick Science Park
Sovereign Court
Sir William Lyons Road
Coventry CV4 7EZ
Great Britain
A Guide to
ient Ventilation
Air Infiltration and Ventilation Centre

and INIVE :
t introduction

AIVC databases



AIRBASE

Database of articles regarding ventilation, indoor climate and energy efficiency

15.600 references

Numerical Database

Guide with hyperlinks to some 300 different documents stored on CD-ROM

300 references

Standards Database

Database of standards and regulations

> 250 standards

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AIR: Quarterly Newsletter

AIR
AIR INFORMATION REVIEW
Vol 25, No. 3, June 2004 — A quarterly newsletter from the IEA Air Infiltration and Ventilation Centre

AIVC

Airtightness: the largest building ever tested - 1
Promotion Energy Saving and Renewable energies - 2
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Technical notes on CETIAT Website - 3
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Airtightness: the largest building ever tested

Professor Steve Sharples - Sheffield Hallam University, UK
Steve Closs - HRS Services, Sheffield, UK

Introduction

The gradual improvement in thermal insulation levels in buildings over the last thirty years has increased the relative proportion of energy losses associated with air infiltration. Consequently, it becomes more important to be able to design, test and seal buildings to have less leaky external envelopes. Studies in industrial countries have shown that unnecessary ventilation can account for over 60 % of building energy wastage, mainly through the loss of conditioned air.

AIVC CONFERENCES

- Focused: Key For Networking
- Annual: with Changing Venue & Topic
  - 2001: UK
  - 2002: France (embedded in EPIC)
  - 2003: USA
  - 2004: Czech Republic
  - 2005: Belgium
  - 2006: France (embedded in EPIC)

Next conferences

- **2005 : 'Ventilation in relation to energy performance of buildings'**
  - Brussels, Belgium
  - 21 – 23 September 2005
- **2006 : in conjunction with 4th EPIC conference**
  - Lyon, France
  - Probably 6 – 8 December 2006

2001: Move to AIR-CD

International Energy Agency

air infiltration and ventilation centre
IEA ECBCS Annex 5

AIVC-CD n°13, September 2004

How to use the AIVC CD

AIR Newsletters | AIVC Publications | AIRBASE | Standards Database

Related newsletters
Documents of Interest
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About AIVC
About INIVE

Get Acrobat Reader

Air Information Review September 2004

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CURRENT PRODUCTS

- TECH NOTES
  - Economic considerations regarding indoor climate and ventilation
  - Ventilation and smoking
- NEW KINDS OF PRODUCTS
  - Ventilation Information Papers
  - State Of The Art (SOTA) Report
  - Enhanced Website & AIRBASE

Ventilation Information Papers

- VIP 1 : Air tightness of ventilation ducts (6/03)
- VIP 2 : Indoor air pollution – part 1 (12/03)
- VIP 3 : Natural ventilation in urban areas (3/04)
- VIP 4 : Night ventilation strategies (3/04)
- VIP 5 : Displacement ventilation (6/04)
- VIP 6 : Heat recovery (6/04)
- VIP 7 : Indoor air pollution – part 2 (9/04)
- VIP 8 : Air tightness of buildings (12/04)
- VIP 9 : Energy performance regulations (12/04)
- **VIP 10: Sheltering (2/05)**

VIPs in preparation

- Hybrid ventilation systems
- Controls of ventilation
- Moisture in buildings
- Ventilation and mold
- Humidity controlled ventilation
- Adaptive comfort and ventilation
- Ventilation and poverty

VIPs in preparation - 2

- Ventilation in extreme low energy houses
- Air quality in planes
- Innovative ventilation systems in planes
- CO2 controlled ventilation
- Acceptable variations in ventilation
- Commissioning of ventilation systems
- Reliability of ventilation systems
- Energy consumption for fans

VIPs in preparation - 3

- Ventilation in garages
- Industrial ventilation
- Ceiling fans
- Double ventilated facades
- Cowls
- Ground cooling ventilation
- Intelligent control of ventilation

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SOTA report on Ventilation

	Title	Author	Internal reviewers
1	Ventilation for cooling	GR (Santamouris)	FR
2	Advanced components for ventilation	NL (De Gids)	NO
3	Standardisation and legislation	BE (Wouters)	NL
4	Airtightness	USA (Sherman)	Dorer
5	Engineering of ventilation systems	J. Anderson	CZ
6	Ductwork	FR (R. Carrie)	USA
7	Hybrid ventilation	P. Heiselberg	NL
8	Ventilation tools	USA (Axley)	NL
9	Natural ventilation	FR (Allard)	BE
10	Ventilation indicators	NO (P. Schild)	CZ
11	Heat recovery	NO (P. Schild)	FR
12	Health and productivity	O. Seppanen	USA

To be published by James and James – April 200

AIRBASE

- Future dissemination
  - To become on-line on AIVC website
  - Preparation has started up
- Medium term
  - Full articles in pdf format will be linked to abstracts
  - Free of charge in INIVE countries

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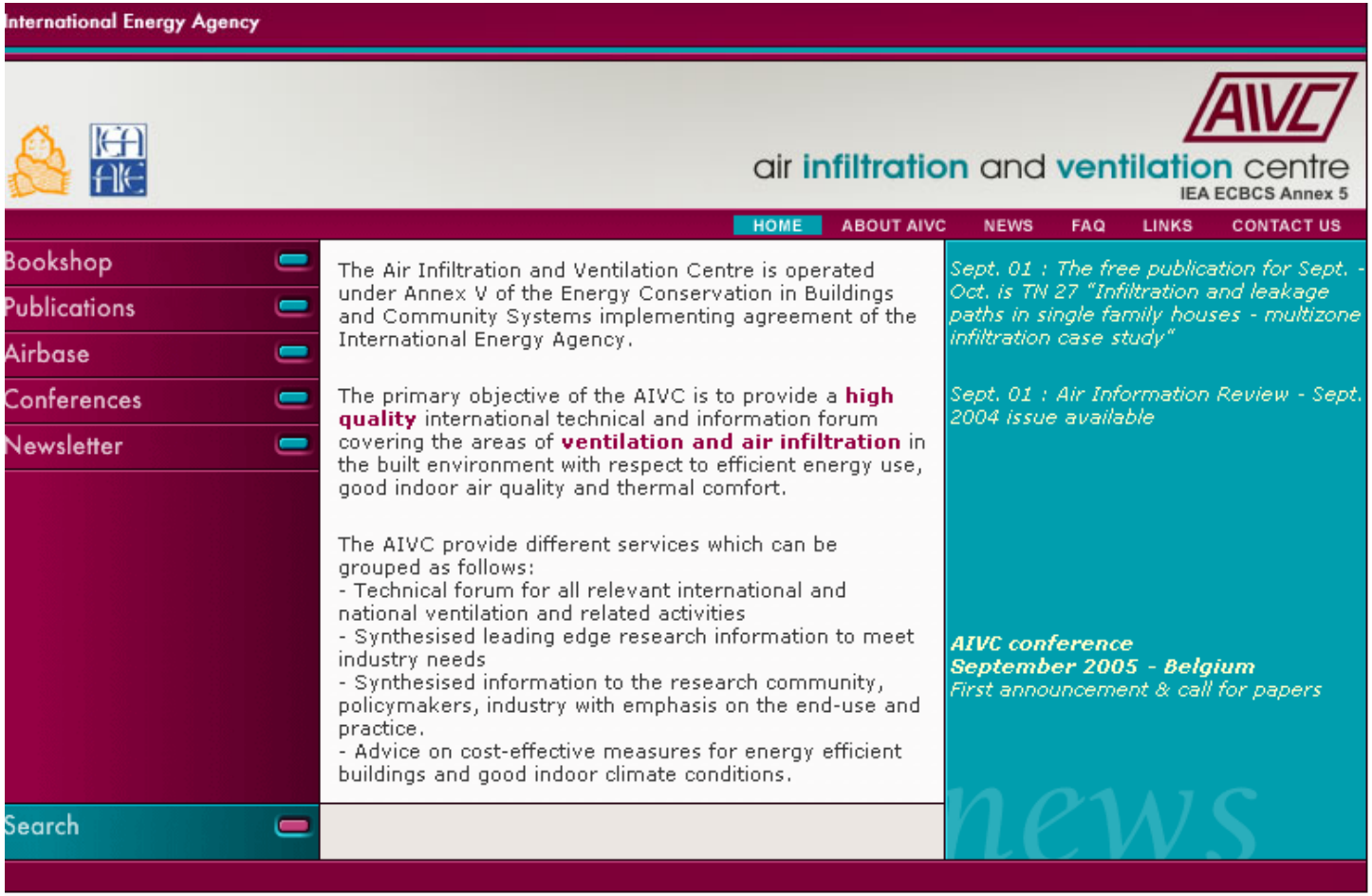
AIVC website


International Energy Agency
air infiltration and ventilation centre
IEA ECBCS Annex 5
HOME
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The Air Infiltration and Ventilation Centre is operated under Annex V of the Energy Conservation in Buildings and Community Systems implementing agreement of the International Energy Agency.
The primary objective of the AIVC is to provide a high quality international technical and information forum covering the areas of ventilation and air infiltration in the built environment with respect to efficient energy use, good indoor air quality and thermal comfort.
The AIVC provide different services which can be grouped as follows:
- Technical forum for all relevant international and national ventilation and related activities
- Synthesised leading edge research information to meet industry needs
- Synthesised information to the research community, policymakers, industry with emphasis on the end-use and practice.
- Advice on cost-effective measures for energy efficient buildings and good indoor climate conditions.
Sept. 01 : The free publication for Sept. - Oct. is TN 27 "Infiltration and leakage paths in single family houses - multizone infiltration case study"
Sept. 01 : Air Information Review - Sept. 2004 issue available
AIVC conference
September 2005 - Belgium
First announcement & call for papers
news

Google : « ventilation »

→ 1st reference on total of more than 3.5 million reference

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air infiltration and ventilation centre AIVC

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The AIVC offers a wide range of publications and literature. These include journals and technical publications as well as a bibliographical and a numerical database in electronic format, and proceedings from previous AIVC conferences. All the new AIVC publications are produced in electronic format only.

Disclaimer

The different publications of the AIVC are listed below :

AIVC bookshop

- **Technical Reports** see full list below
  The AIVC's collection of technical notes on subjects including ventilation, infiltration, indoor air movement, and measurement techniques
- **Guides & Handbooks** see full list below
  A series of carefully researched and readily accessible publications giving detailed coverage on a range of important topics, and encapsulating the knowledge and experience derived from experts in all the AIVC Member Countries.
- **Air Information Review & AIVC-CD** detailed information
  The Air Information Review (AIR) is a quarterly newsletter containing topical and informative articles on air infiltration and ventilation research and application. The newsletter is distributed with the AIVC CD.
- **AIVC Conference Proceedings** detailed information
  Full proceedings and papers from past AIVC conferences.
- **AIRBASE** detailed information
  Bibliographic database on CD ROM for your computer (Microsoft Access version).
- **Annotated Bibliographies** see full list below
  The AIVC's collection of bibliographies on topics ranging from 'Ventilation and Acoustics' to 'Air Intake Positioning to Avoid Contamination of Ventilation Air'.
- **Literature Lists** see full list below
  Abstracts of material on various subjects added to Airbase, the AIVC's bibliographical database.
- **Ventilation Information Papers** see full list below
  Ventilation Information Papers (VIP) are a new series of AIVC publications. They are quite short (6 to 8 pages) and are intended for giving a basic knowledge of some aspects related to the air infiltration and/or the ventilation.

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IMPORTANT PRIORITY : monitoring website use

AIVC and INIVE :
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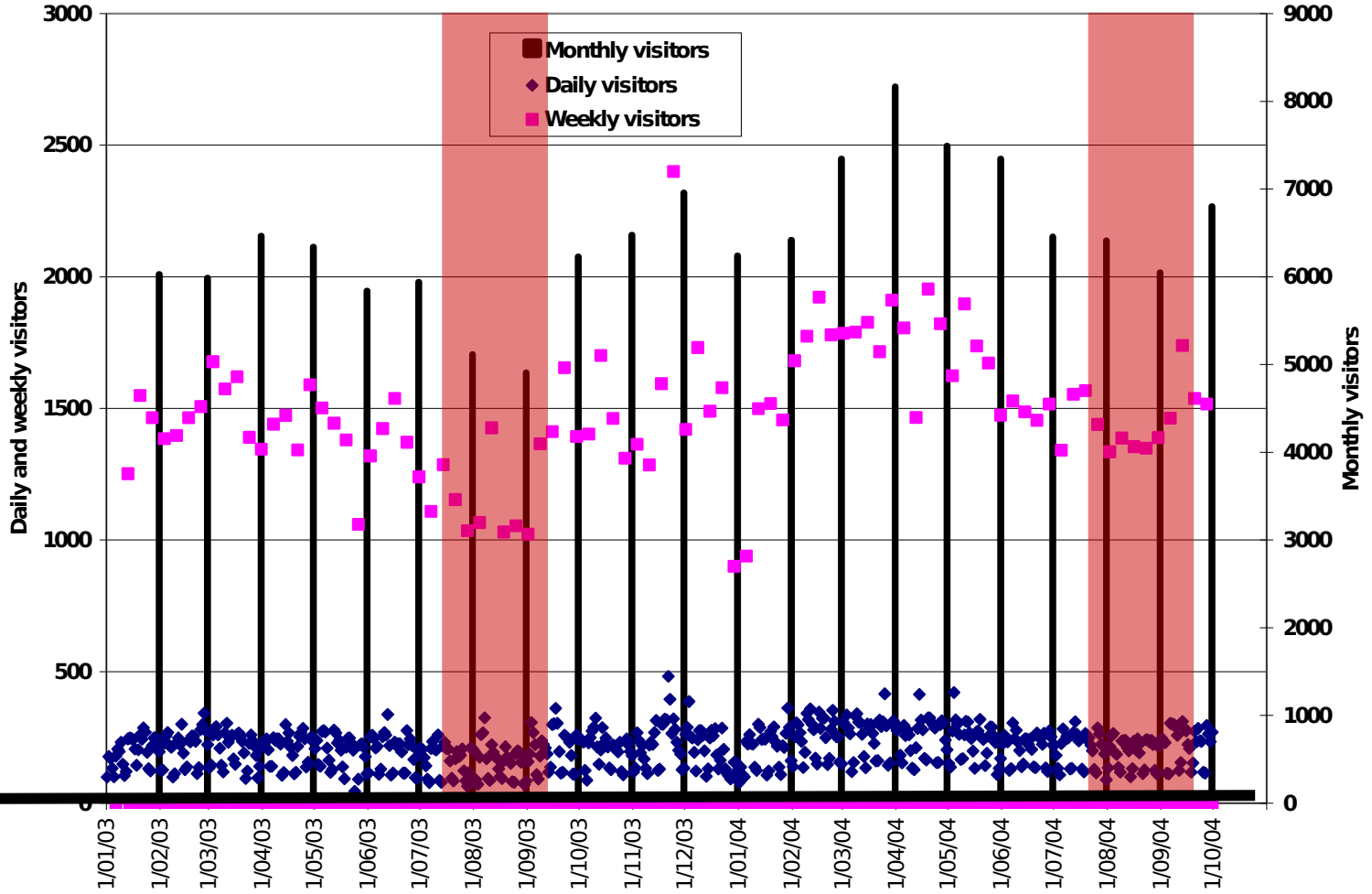
www.aivc.org : Number of visitors



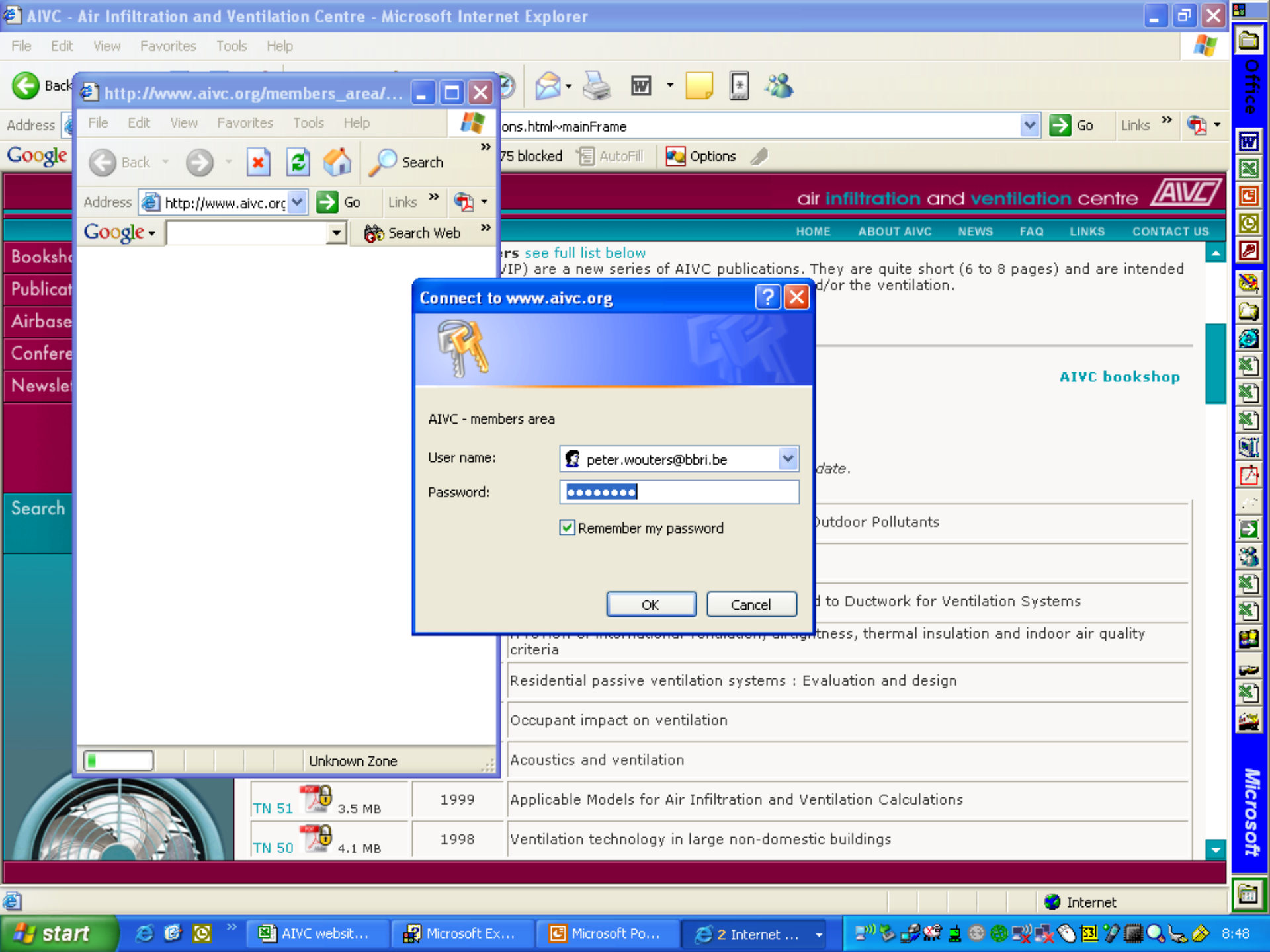
Downloads of free issue of the month

About 2300 reports downloaded

Month	Ref	Title	#
Jan 2003	TN 39	Energy requirements for conditioning of ventilating air	63
Feb 2003	BIB 01	A review of ventilation efficiency	129
Mar 2003	TN 45	An annotated bibliography: garage ventilation	104
Apr 2003	TN 40	Air to air heat recovery in ventilation	146
May 2003	BIB 06	An overview of combined modelling of heat transport and air movement	120
Jun 2003	TN 36	Ventilation in schools: an annotated bibliography	169
Jul 2003	TN 33	Air infiltration and ventilation glossary	164
Aug 2003	BIB 04	A review of building air flow simulation	225
Sep 2003	TN 10	Ventilation and infiltration characteristics of Ventilation and Infiltration Characteristics of Lift Shafts and Stair Wells - A Selected Bibliography	176
Oct 2003	TN 16	Ventilation and infiltration characteristics of Ventilation and Infiltration Characteristics of Lift Shafts and Stair Wells - A Selected Bibliography	78
Nov 2003	BIB 02	Techniques and instrumentation for the measurement of air infiltration in buildings	194
Dec 2003	TN 23	Leakage distribution in buildings	205
Jan 2004	TN 29	An annotated bibliography: natural ventilation	97
Feb 2004	TN 29	Inhabitants' behaviour with regard to ventilation	204
Mar 2004		Fundamentals of the multizone air flow model - COMIS	147
Apr 2004		Fundamentals of the multizone air flow model - COMIS	101

Current Plan

- Make all information available on website
  - To replace AIVC-CD
  - Password control
  - Better guiding of users
- Strengthen user contacts
  - High quality contact database
  - Targeted information
- Liaison with possible new members
- Increase networking with other organisations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peter.wouters@bbri.be
Password:
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OK
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AIVC bookshop
Residential passive ventilation systems : Evaluation and design
Occupant impact on ventilation
Acoustics and ventilation
TN 51 3.5 MB 1999 Applicable Models for Air Infiltration and Ventilation Calculations
TN 50 4.1 MB 1998 Ventilation technology in large non-domestic buildings
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Guides & Handbooks

GU 5	2002	Ventilation Modelling Data Guide
TP 2.9 MB	1999	Improving ductwork: a time for tighter air distribution systems
GV 8.8 MB	1996	A guide to energy efficiency ventilation
AG 8.8 MB	1998	Air exchange rate and airtightness measurement techniques - An application guide
CT 6.2 MB	1986	Air infiltration calculation techniques - An applications guide
HNBK 16.6 MB	1983	Air Infiltration Control in Housing

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Annotated Bibliographies

BIB 12	2003	Review of Airflow Measurement Techniques
BIB 11	2001	Balancing Ventilation systems - An Annotated Bibliography
BIB 10	2000	Annotated Bibliography: Ventilation System Duct Cleaning

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Annotated Bibliographies

BIB 12	2003	Review of Airflow Measurement Techniques
BIB 11	2001	Balancing Ventilation systems - An Annotated Bibliography
BIB 10	2000	Annotated Bibliography: Ventilation System Duct Cleaning
BIB 09	1999	An Annotated Bibliography: Impact of Urban Air Pollution on the Indoor Environment
BIB 08	1998	Passive Cooling Technology for Office Buildings: An Annotated Bibliography
BIB 07	1997	Ventilation and acoustics in buildings: an annotated bibliography
BIB 06	1997	Ventilation in schools: an annotated bibliography
BIB 05	1996	An annotated bibliography: heat pumps for ventilation exhaust air heat recovery
BIB 04	1995	An annotated bibliography: air intake positioning to avoid contamination of ventilation air
BIB 03	1995	An annotated bibliography: natural ventilation
BIB 02	1994	An annotated bibliography: garage ventilation
BIB 01	1993	Ventilation and infiltration characteristics of lift shafts and stair wells

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LL 03	Weatherstripping windows and doors
LL 02	Pressurisation - infiltration correlation: 2. Measurements
LL 01	Pressurisation - infiltration correlation: 1 Models

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Ventilation Information Papers

VIP 07	168 kB	Indoor Air Pollutants – Part 2: Description of sources and control/mitigation measures
VIP 06	681 kB	Air-to-Air Heat Recovery in Ventilation Systems
VIP 05	244 kB	Displacement Ventilation
VIP 04	410 kB	Night ventilation strategies
VIP 03	1125 kB	Natural ventilation in urban areas
VIP 02	259 kB	Indoor Air Pollutants - Part 1: General description of pollutants, levels and standards
VIP 01	490 kB	Airtightness of ventilation ducts

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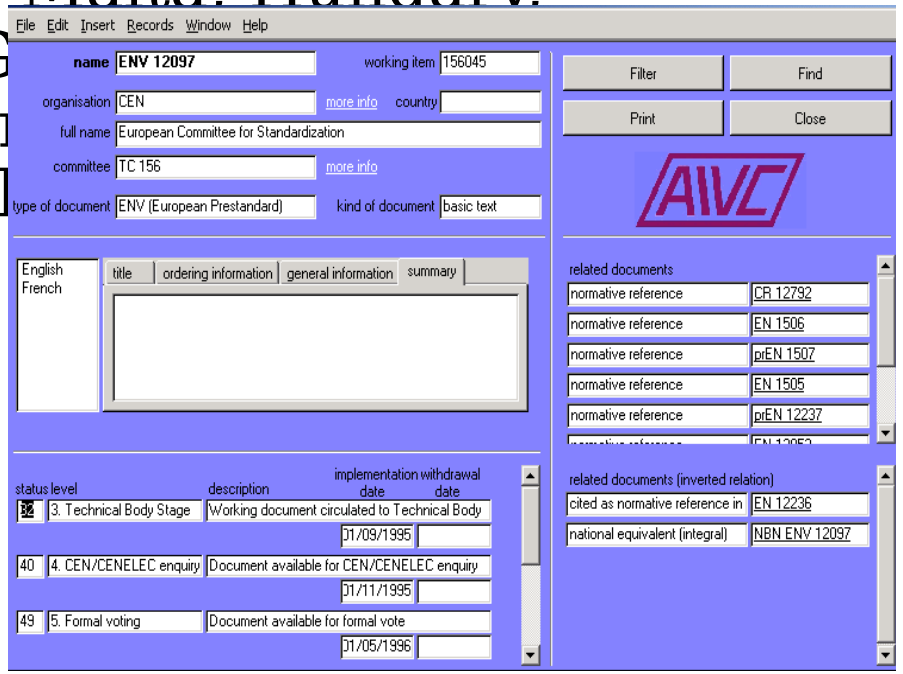
Standards database

At present more than 250 standards

- Spain, France, Belgium, Canada, UK, CEN, USA, Czech Republic, Germany, Denmark, ISO, Malta, Hungary, Netherlands, G
  Bulgaria, Luxe
  Sweden, Sloval

To become available on-line in first semester 2006



Future: Distributed Access

- Centre of attention : Needs of users
  - What kind of information?
  - Where to bring the information?

- Organizational Links
  - Customize for Country/Institution
- Direct User Links
  - Sophisticated Users
- AIVC is Server to Organization

Envisaged strategy : Distributed access points to AIVC information

- How?
  - Link between central AIVC databases and national/local websites
- Timing?
  - Should be operational by end of 2005

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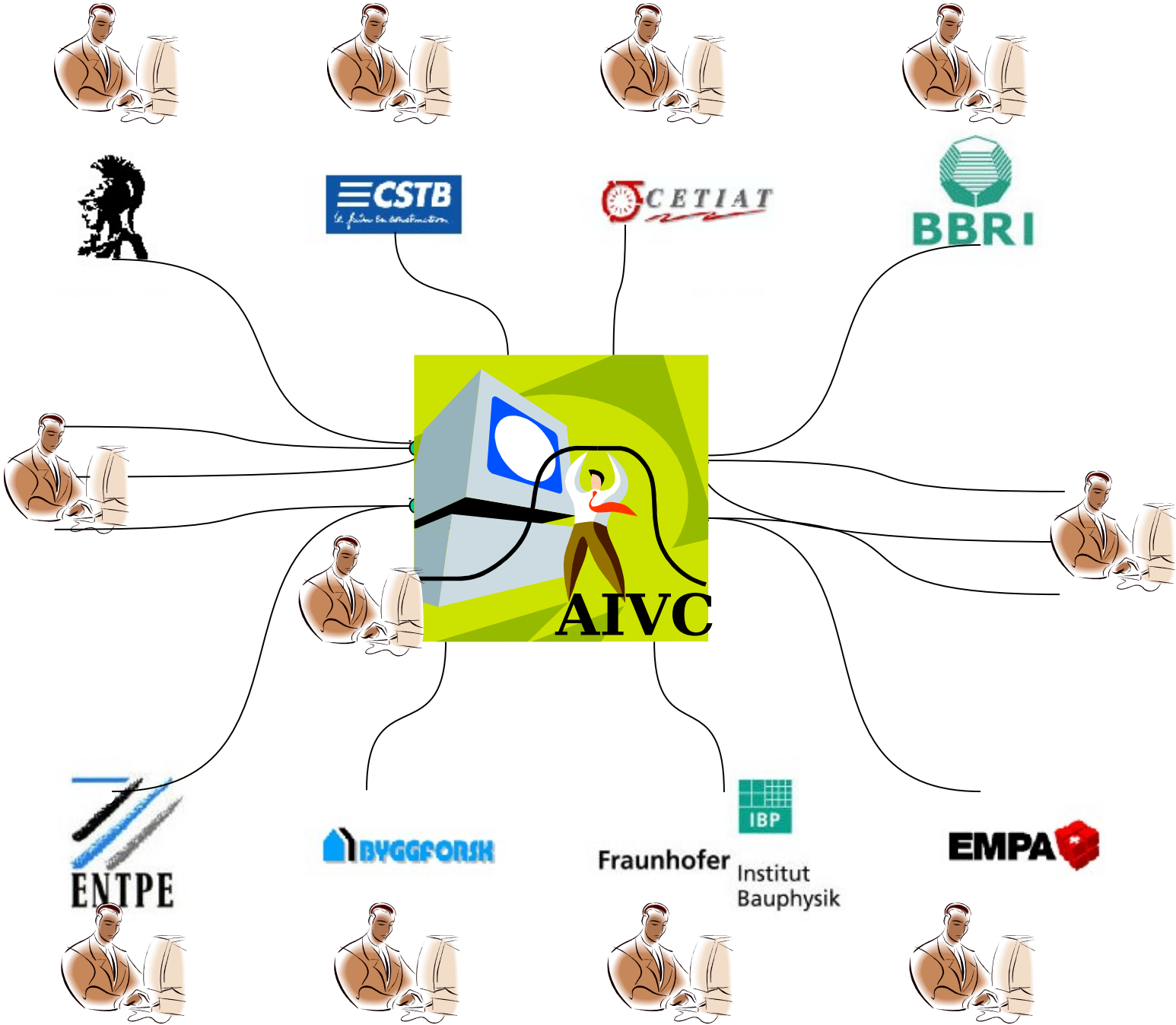

AIVC MEMBER BENEFITS

- (IEA) Country Membership
  - Leverage national programme efforts
  - Control what is produced by AIVC
- (INIVE) Organizational Membership
  - Free use of information products
  - Control of dissemination efforts

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AIR December 2004 issue

AIR INFORMATION REVIEW

Vol 26, No. 1, December 2004 A quarterly newsletter from the IEA Air Infiltration and Ventilation

Certified Rating Programmes of Home Ventilating Institute - 2

Introduction to SCANVAC - 2

External windbreakers for airtight buildings - 3

IEA - ECBCS Annex 44: Integrating Environmentally Responsive Elements in Buildings - 4

Dampness in buildings as a risk factor for health effects. EUROEXPO - 4

Using ground cooled ventilation air in housing - 5

Duct thermal performance models for large commercial buildings - 5

WIS 3.0: Free European Software Tool for the calculation of the thermal and solar properties of windows - 6

New standard on performance requirements for ventilation and room-conditioning Systems - 7

Mankind's gravest IAQ problem - 7

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Airtightness of buildings - 10

Energy Performance regulation: Which impact to be expected from the European Energy Performance Directive? - 10

A new guide on air quality in ventila-

Success for the AIVC silver jubilee conference

This year the 25th AIVC conference was held in the nice city of Prague (Czech Republic) from 15 to 17 September 2004. Over 80 participants from all over the world (21 countries) attended the conference.

The main topic of the conference was ventilation and retrofitting. In addition to this topic, 2 special sessions were organized in close collaboration with the EC RESHYVENT project dealing with hybrid ventilation in residential buildings (*http://www.reshyvent.com*).

The best paper prize has been awarded to Mr. François Rémy Carré (from CETE Lyon) for his presentation of the paper entitled: "Checking the compliance of residential ventilation systems in France". The full version of his paper is available on the AIVC-CD.

The best poster prize has been awarded to Mrs. L. Guo (from Urban Institute Ireland) for her presentation of the paper entitled: "Field investigation of indoor air quality in various Chinese residential buildings". Her paper is also available on the AIVC-CD.

The proceedings of the 25th AIVC conference are now available on CD. The price (postage and package included) is 35 Euro. The table of content of the proceedings and the order form are available on the AIVC-CD and on the AIVC website *http://www.aivc.org*.